I. AMENDMENT

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

66. (Previously Presented) A method for continuously detecting a specific nucleic acid sequence that is produced during a process that results in amplification of a specific DNA or RNA sequence, said process comprising:

(a) obtaining a fluorescent labeled oligonucleotide containing a nucleic acid sequence recognized by an enzyme that facilitates nucleic acid cleavage or ligation;

(b) contacting said oligonucleotide with said enzyme that facilitates nucleic acid ligation or cleavage during a process that results in amplification of said specific DNA or RNA sequence; and

(c) continuously detecting said ligation or cleavage reaction by detecting a change in fluorescence intensity during said amplification reaction.

67. (Previously Presented) A method for continuously detecting a specific nucleic acid sequence by a fluorometric assay comprising the following steps:

(a) obtaining an oligonucleotide that is labeled with a fluorescent acceptor and donor pair; wherein (1) at least one of said acceptor and donor are attached to said oligonucleotide by a linker that inhibits quenching upon binding of said oligonucleotide to another nucleic acid sequence, and (2) said oligonucleotide is specifically recognized by an enzyme that effects nucleic acid ligation or cleavage of a specific nucleic sequence;

(b) contacting said oligonucleotide with said enzyme that effects nucleic acid ligation or cleavage of said oligonucleotide; and

(c) continuously detecting said ligation or cleavage reaction by monitoring fluorescence intensity during said ligation or cleavage reaction.

68. (Previously Presented) The method of Claim 67, wherein said continuous detection of said specific nucleic acid sequence occurs while a reaction that results in the amplification of said specific nucleic acid sequence proceeds.

69. (Previously Presented) The method of Claim 66, wherein said amplification reaction is a catalytic hybridization amplification reaction.

70. (Previously Presented) The method of Claim 66, wherein said amplification reaction is a polymerase chain reaction.

71. (Previously Presented) The method of Claim 66, wherein said amplification reaction is a ligase chain reaction.

72. (Previously Presented) The method of Claim 66, wherein said change in fluorescence intensity is measured by time-resolved fluorescence.

73. (Previously Presented) The method of Claim 66, wherein said change in fluorescence intensity is measured by energy transfer.

74. (Previously Presented) The method of Claim 66, wherein said change in fluorescence intensity is measured by single photon counting.

75. (Previously Presented) The method of Claim 66, wherein said change in fluorescence is measured by an analog method.

76. (Previously Presented) The method of Claim 66, wherein said change in fluorescence is measured by fluorescent lifetime.

77. (Previously Presented) The method of Claim 67, wherein said fluorescent donor and acceptor are spaced with an about zero and twenty bases of one another.

78. (Previously Presented) The method of Claim 67, wherein said fluorescent donor and acceptor are spaced within about zero to seven bases of one another.

79. (Previously Presented) The method of Claim 67, wherein either or both of said fluorescent donor and acceptor are attached to said oligonucleotide by a linker.

80. (Previously Presented) The method of Claim 79, wherein said linker is a carbon linker comprising a 12 carbon chain.

81. (Previously Presented) The method of Claim 67, wherein said donor and acceptor are at opposite ends of said specific nucleic acid sequence.

82. (Previously Presented) The method of Claim 67, wherein either said donor or acceptor are attached internally to said specific nucleic acid sequence.

83. (Previously Presented) The method of Claim 67, wherein said fluorescent donor and acceptor are on different strands of said oligonucleotide.

84. (Previously Presented) The method of Claim 66, wherein said detected nucleic acid sequence is a DNA.

85. (Previously Presented) The method of Claim 66, wherein said detected nucleic acid sequence is a double stranded DNA.

86. (Previously Presented) The method of Claim 66, wherein said detected nucleic acid sequence is an RNA.

87. (Previously Presented) The method of Claim 67, wherein said detected nucleic acid sequence is a DNA.

88. (Previously Presented) The method of Claim 67, wherein said detected nucleic acid sequence is a double stranded DNA.

89. (Previously Presented) The method of Claim 67, wherein said detected nucleic acid sequence is an RNA.

90. (Previously Presented) The method of Claim 67, wherein said donor is attached to said oligonucleotide by a linker.

91. (Previously Presented) The method of Claim 67, wherein said acceptor is attached to said oligonucleotide by a linker.

92. (Previously Presented) A method for continuously detecting a specific nucleic acid sequence that is produced during a process that results in amplification of a specific DNA or RNA sequence, said process comprising:

(a) obtaining an oligonucleotide that is labeled with a fluorescent acceptor and donor pair, wherein (1) at least one of said acceptor and donor are attached to said oligonucleotide by a linker that inhibits quenching or fluorescence upon binding of said oligonucleotide to another nucleic acid sequence, and (2) said oligonucleotide is specifically recognized by an enzyme that effects nucleic acid ligation or cleavage of a specific nucleic acid sequence;

(b) contacting said oligonucleotide with said enzyme that effects nucleic acid ligation or cleavage during a process that results in amplification of said specific nucleic acid sequence; and

(c) continuously detecting said ligation or cleavage reaction, and thereby detecting said specific nucleic acid sequence produced during said amplification reaction, by monitoring fluorescence intensity as said amplification reaction proceeds.

93. (Previously Presented) The method of Claim 92, wherein said amplification reaction is a catalytic hybridization reaction.

94. (Previously Presented) The method of Claim 92, wherein said amplification reaction is a polymerase chain reaction.

95. (Previously Presented) The method of Claim 92, wherein said amplification reaction is a ligase chain reaction.

96. (Previously Presented) The method of Claim 92, wherein said change in fluorescence intensity is measured by time-resolved fluorescence.

97. (Previously Presented) The method of Claim 92, wherein said change in fluorescence intensity is measured by energy transfer.

98. (Previously Presented) The method of Claim 92, wherein said change in fluorescence intensity is measured by single photon counting.

99. (Previously Presented) The method of Claim 92, wherein said change in fluorescence is measured by an analog method.

100. (Previously Presented) The method of Claim 92, wherein said change in fluorescence is measured by fluorescent lifetime.

101 – 108. (Cancelled).